Configuring Direct Connect

This chapter includes the following sections:

- Direct Connect Mode, on page 1
- Management Connection Policy and Connection Mode, on page 2
- Requirements for Direct Connect Mode Integration with Cisco UCS Manager, on page 2
- Cisco UCS Manager for Mixed Cisco UCS VIC Setup, on page 6
- Connecting the C-Series Server with Cisco UCS Domain in Cluster Setup, on page 14
- Connecting the C-Series Server with Cisco UCS Domain in Non-Cluster Setup, on page 17
- Migrating C-Series Servers from SingleConnect to Direct Connect Mode, on page 18
- Migrating C-Series Servers from Dual-wire Management to Direct Connect Mode, on page 19
- Managing the Rack-Mount Server in Cisco UCS Manager after Integration, on page 20
- Reverting a Server From Cisco UCS Domain Mode to Standalone Mode, on page 20
- Special Considerations for Integrated Servers, on page 21

Direct Connect Mode

Beginning with release 3.1, Cisco UCS Manager supports an option to connect the C-Series Rack-Mount Server directly to the Fabric Interconnects. You do not need the Fabric Extenders. This option enables Cisco UCS Manager to manage the C-Series Rack-Mount Servers using a single cable for both management traffic and data traffic.

Note After connecting the server with the FI, when the server is discovered, make sure to update the C-Series software bundle available for Cisco UCS Manager, release 3.1 or later.

VIF Scalability

For the maximum number of virtual interfaces allowed on each adapter in the server that is directly connected to the Fabric Interconnect, see

Cisco UCS Configuration Limits for Cisco UCS Manager Guide

Management Connection Policy and Connection Mode

When establishing physical connections for the C-Series Rack-Mount Server in the Cisco UCS Domain, you must specify the connection mode and management policy in Cisco UCS Manager GUI or Cisco UCS Manager CLI. The management policy is global to all connected C-Series Rack-Mount Servers. The connection mode determines the rack server discovery in Cisco UCS Manager.

You can specify either one of the following connection policies for the rack servers:

- **Auto Acknowledged**: This is the recommended and default connection mode for the C-Series Rack-Mount Server. If the connection mode is auto-acknowledged, immediately after establishing the physical connection, Cisco UCS Manager discovers the rack server and starts managing the server based on the specified management policy.
- **User Acknowledged**: If the connection mode is user-acknowledged, after establishing the physical connection, you must manually acknowledge the connection and specify the connection mode in the Cisco UCS Manager GUI or Cisco UCS Manager CLI to begin the discovery. Cisco UCS Manager does not begin the C-Series Rack-Mount Server discovery until you specify the connection mode. See Manually Acknowledging Connection Mode - GUI or Manually Acknowledging Connection Mode - CLI for detailed procedure.

Note When rack servers are discovered and are managed by Cisco UCS Manager, if you want to change the existing connection mode for one C-Series Rack-Mount Server, you have to decommission the server, re-commission it and specify the new connection mode. Only then Cisco UCS Manager can discover the server in the new connection mode.

Requirements for Direct Connect Mode Integration with Cisco UCS Manager

Requirements for Cluster Setup

Requirements for Cluster Setup

You must have the following items to create a direct connect integration for C-Series Rack-Mount Server with Cisco UCS Manager in cluster setup:

- A Cisco UCS system that is running Cisco UCS Manager.
- Any of the C-Series Rack-Mount Servers and corresponding Cisco IMC and UCS Manager release versions listed in #unique_48 unique_48_Connect_42_d23e63.
- Two Cisco UCS VIC cards and two Cisco UCS FIs. See Cisco UCS Fabric Interconnect Server Compatibility Matrix for adapter and FI compatibility with your server. To enable SingleConnect for the Cisco UCS Manager integration, you must have a Cisco VIC installed in the specific slot assigned for SingleConnect in the rack server. If the VIC is not in the specific slot, SingleConnect does not work.

Minimum Required Version of Cisco IMC, BIOS and Cisco UCS Manager for DirectConnect Integration

Table 1: Minimum Required Version of Cisco IMC, BIOS and Cisco UCS Manager

Server	Cisco IMC	Cisco IMC BIOS	Cisco UCS Manager	UCS Manager (BIOS)
Cisco UCS C240 M8 Server	4.3(6.250039)	C240M8 4.3.6a.0.0319250402	4.3(6a)	ucs-c240-m8-bios.4.3.6a.0.0319250402
Cisco UCS C220 M8 Server	4.3(6.250039)	C220M8 4.3.6a.0.0319250402	4.3(6a)	ucs-c220-m8-bios.4.3.6a.0.0319250402
Cisco UCS C225 M8 Server	4.3(5.240021)	C225M8 4.3.5a.0.0904241155	4.3(5a)	ucs-c225-m8-bios 4.3.5a.0.0904241155
Cisco UCS C245 M8 Server	4.3(4.241014)	C245M8 4.3.4a.0.0520240849	4.3(4b)	ucs-c245-m8-bios.C245-m8 4.3.4a.0.0520240849
Cisco UCS C240 M7 Server	4.3.1.230097	C240M7.4.3.1a.0	4.3(2b)	ucs-c240-m7-bios.C240M7.4.3.2a.0.0710230213
Cisco UCS C220 M7 Server	4.3.1.230097	C220M7.4.3.1a.0	4.3(2b)	ucs-c220-m7-bios.C220M7.4.3.2a.0.0710230213
Cisco UCS C220 M6 Server	4.2(1)	4.2(1)	4.2(1)	4.2(1)
Cisco UCS C240 M6 Server	4.2(1)	4.2(1)	4.2(1)	4.2(1)
Cisco UCS C220 M5 Server	3.1.1d	3.1.1i.0	3.2(1d)	3.1.1i.0
Cisco UCS C245 M6 Server	4.2(1)	4.2(1)	4.2(1)	4.2(1)
Cisco UCS C240 M5 Server	3.1.1d	3.1.1h.0	3.2(1d)	3.1.1h.0
Cisco UCS C480 M5 Server	3.1(2b)	3.1.2a.0	3.2(2b)	3.1.2a.0
Cisco UCS C480 M5 Server	3.1(2b)	3.1.2a.0	3.2(2b)	3.1.2a.0
Cisco UCS C125 M5 Server	4.0(1a)	4.0(1a)	4.0(1a)	4.0(1a)
Cisco UCS C480 M5 ML Server	4.0(2a)	4.0(2a)	4.0(2a)	4.0(2a)
Cisco UCS C240 SD M5 Server	4.1(2)	4.1(2)	4.1(2)	4.1(2)

Recommended Cisco VIC Firmware Version

Table 2: Recommended Cisco VIC Firmware Version

Server	VIC Firmware Version
Cisco UCS VIC 15238	5.3(2.32)
Cisco UCS VIC 15235	5.3(2.32)-48
Cisco UCS VIC 15425	5.3(2.32)-48
For Cisco UCS VIC 15428 MLOM	5.3(2.32)-48
Cisco UCS VIC 1495	5.3(2.32)
For Cisco UCS VIC 1467 and 1477 MLOM:	5.3(2.32)
For Cisco UCS VIC 1455 and 1457 MLOM:	5.3(2.32)
Cisco UCS VIC 1385 and 1387 MLOM	4.6(2.230015)

Recommended Cisco VIC Slot

Table 3: Cisco UCS VIC Slot

Server	PCIe Slot
Cisco UCS C240 M8 Server	MLOM, 1, 2, 4, and 5 **Note** If slots 2 and 5 are occupied with GPUs, then VICs can be placed in slots 1 and 4.
Cisco UCS C220 M8 Server	MLOM, 1, 3
Cisco UCS C225 M8 Server	MLOM, 2 and 5 **Note** If slots 2 and 5 are occupied with GPUs, then VICs can be placed in slots 1 and 4.
Cisco UCS C245 M8 Server	MLOM, 2 and 5 **Note** If slots 2 and 5 are occupied with GPUs, then VICs can be placed in slots 1 and 4.
Cisco UCS C220 M7 Server	MLOM, 1, 3
Cisco UCS C240 M7 Server	MLOM, 1, 2, 4, and 5 **Note** If slots 2 and 5 are occupied with GPUs, then VICs can be placed in slots 1 and 4.
Cisco UCS C220 M6 Server	MLOM, 1, 3
Cisco UCS C240 M6 Server	MLOM, 1, 2, 4, and 5 **Note** If slots 2 and 5 are occupied with GPUs, then VICs can be placed in slots 1 and 4.
Cisco UCS C245 M6 Server	MLOM, 1, 2, 4, and 5 **Note** If slots 2 and 5 are occupied with GPUs, then VICs can be placed in slots 1 and 4.
Cisco UCS C220 M5 Server	MLOM, 1 For Cisco UCS C220 M5 Server servers you can use either MLOM or VIC to integrate with Cisco UCS Manager in SingleConnect or direct connect mode.

Server	PCIe Slot
Cisco UCS C240 M5 Server	MLOM, 1, 2, 4, 5 **Note** If slots 2 and 5 are occupied with GPUs, then VICs can be placed in slots 1 and 4. For Cisco UCS C240 M5 Server servers you can use either MLOM or VIC to integrate with Cisco UCS Manager in SingleConnect or direct connect mode. See Cisco UCS Manager Management for Mixed VIC Set-up for slot combination.
Cisco UCS C240 SD M5 Server	MLOM, 1, 2
Cisco UCS C480 M5 Server	1, 2
Cisco UCS C125 M5 Server	2 Cisco UCS C125 M5 Servers do not support MLOM. For Cisco UCS C125 M5 Servers, you must place the VIC card in slot 2 only.
Cisco UCS C480 M5 Server	1, 2
Cisco UCS C480 M5 ML Server	11, 12

Cabling Considerations

Refer xx for the compatible cables. (release notes link)

Non-Cluster Setup

If you are integrating the server in a non-cluster setup, along with the Cisco UCS Manager and C-series rack mount server, you need the following components :

- A Cisco UCS system that is running Cisco UCS Manager.
- Any of the C-Series Rack-Mount Servers and corresponding Cisco IMC and UCS Manager release versions listed in Table 1.
- One Cisco UCS VIC cards and one Cisco UCS FI. See Cisco UCS Fabric Interconnect Server Compatibility Matrix for adapter and FI compatibility with your server.
- Refer Recommended Cisco VIC Firmware Version.
- To enable Cisco UCS Manager integration, you must have a Cisco VIC installed in the specific slot assigned in the rack server. If the VIC is not in the specific slot, integration does not work. Refer Cisco UCS VIC Slot for SingleConnect Integration.
- Refer Cabling Considerations

.

Cisco UCS Manager for Mixed Cisco UCS VIC Setup

Cisco UCS Manager Management for Mixed VIC Set-up

Cisco UCS Manager does not provide full support in a setup with Cisco UCS M6 Servers and mixed VIC cards.

Table 4: Cisco UCS Manager Management

Slots	Cisco UCS Manager Management
Only MLOM.	MLOM is the default connectivity adapter.
Both MLOM and VIC adapters.	MLOM is the default connectivity adapter.
Only VIC adapter and no MLOM.	VIC adapter can be installed on slot 1 for single connect or direct connect integration.

Cisco UCS Manager Management for Mixed VIC Set-up

Cisco UCS Manager does not provide full support in a setup with Cisco UCS M5 Servers and mixed VIC cards.

Table 5: Cisco UCS Manager Management

Slots	Cisco UCS Manager Management
Only MLOM.	MLOM is the default connectivity adapter.
Both MLOM and VIC adapters.	MLOM is the default connectivity adapter.
Only VIC adapter and no MLOM.	VIC adapter can be installed on slot 1 for single connect or direct connect integration.

Cisco UCS Manager Management for Mixed VIC Set-up in C240 M5 Server

Cisco UCS Manager does not provide full support in a setup with Cisco UCS C240 M5 Server and mixed VIC cards.

Table 6: Cisco UCS Manager Management

Slots	Cisco UCS Manager Management
Both slot 1 and slot 2 are occupied. Slot 1 - Cisco VIC 1455 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 2.

Slots	Cisco UCS Manager Management
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 Slot 2 - Cisco VIC 1455	Cisco UCS Manager detects both the slots.
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.
Only one slot is occupied. Slot 1 - Any Cisco VIC card or third-party adapter or Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.
Both slot 4 and slot 5 are occupied. Slot 4 - Cisco VIC 1455 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 5.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 Slot 5 - Cisco VIC 1455	Cisco UCS Manager detects both the slots.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.
Only one slot is occupied. Slot 4 - Any Cisco VIC card or third-party adapter or Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.

Cisco UCS Manager Management for Mixed VIC Set-up in C220 M6 Server

Cisco UCS Manager does not provide full support in a setup with Cisco UCS C220 M6 Server and mixed VIC cards.

Table 7: Cisco UCS Manager Management

Slots	Cisco UCS Manager Management
Slot 1, slot 2, and slot 3 are occupied. Slot 1 - Cisco VIC 1455 or Cisco VIC 1495 Slot 2 - Any Cisco VIC card or third-party adapter Slot 3 - Any Cisco VIC card or third-Party Adapter	Cisco UCS Manager detects only slot 2.
Slot 1, slot 2, and slot 3 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 2 - Cisco VIC 1455 or Cisco VIC 1495 Slot 3 - Any Cisco VIC card or third-Party Adapter except Cisco VIC 1455 or Cisco VIC 1495	Cisco UCS Manager detects all the slots.
Slot 1, slot 2, and slot 3 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 2 - Any Cisco VIC card or third-party adapter Slot 3 - Any Cisco VIC card or third-Party Adapter	Cisco UCS Manager detects all the slots.
Only one slot is occupied. Slot 1 - Any Cisco VIC card or third-party adapter or Slot 2 - Any Cisco VIC card or third-party adapter or Slot 3 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.
Both slot 4 and slot 5 are occupied. Slot 4 - Cisco VIC 1455 or Cisco VIC 1495 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 5.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 5 - Cisco VIC 1455 or Cisco VIC 1495	Cisco UCS Manager detects both the slots.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.

Slots	Cisco UCS Manager Management
Only one slot is occupied. Slot 4 - Any Cisco VIC card or third-party adapter or Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.

Note Cisco VIC 1495 is supported only on Cisco UCS 6300 Series Fabric Interconnects.

Cisco UCS Manager Management for Mixed VIC Set-up in C240 M6 Server

Cisco UCS Manager does not provide full support in a setup with Cisco UCS C240 M6 Server and mixed VIC cards.

Table 8: Cisco UCS Manager Management

Slots	Cisco UCS Manager Management
Both slot 1 and slot 2 are occupied. Slot 1 - Cisco VIC 1455 or Cisco VIC 1495 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 2.
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 2 - Cisco VIC 1455 or Cisco VIC 1495	Cisco UCS Manager detects both the slots.
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.
Only one slot is occupied. Slot 1 - Any Cisco VIC card or third-party adapter or Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.
Both slot 4 and slot 5 are occupied. Slot 4 - Cisco VIC 1455 or Cisco VIC 1495 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 5.

Slots	Cisco UCS Manager Management
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 5 - Cisco VIC 1455 or Cisco VIC 1495	Cisco UCS Manager detects both the slots.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.
Only one slot is occupied. Slot 4 - Any Cisco VIC card or third-party adapter or Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.

Note Cisco VIC 1495 is supported only on Cisco UCS 6300 Series Fabric Interconnects.

Cisco UCS Manager Management for Mixed VIC Set-up in C245 M6 Server

Cisco UCS Manager does not provide full support in a setup with Cisco UCS C245 M6 Server and mixed VIC cards.

Table 9: Cisco UCS Manager Management

Slots	Cisco UCS Manager Management
Both slot 1 and slot 2 are occupied. Slot 1 - Cisco VIC 1455 or Cisco VIC 1495 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 2.
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 2 - Cisco VIC 1455 or Cisco VIC 1495	Cisco UCS Manager detects both the slots.
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.

Slots	Cisco UCS Manager Management
Only one slot is occupied. Slot 1 - Any Cisco VIC card or third-party adapter or Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.
Both slot 4 and slot 5 are occupied. Slot 4 - Cisco VIC 1455 or Cisco VIC 1495 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 5.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 5 - Cisco VIC 1455 or Cisco VIC 1495	Cisco UCS Manager detects both the slots.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 1455 or Cisco VIC 1495 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.
Only one slot is occupied. Slot 4 - Any Cisco VIC card or third-party adapter or Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.

Note Cisco VIC 1495 is supported only on Cisco UCS 6300 Series Fabric Interconnects.

Cisco UCS Manager Management for Mixed VIC Set-up in C245 M8 Server

Cisco UCS Manager does not provide full support in a setup with Cisco UCS C245 M8 Server and mixed VIC cards.

Table 10: Cisco UCS Manager Management

Slots	Cisco UCS Manager Management
Both slot 1 and slot 2 are occupied. Slot 1 - Cisco VIC 15425 or Cisco VIC 15235 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 2.

Slots	Cisco UCS Manager Management
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 15425 or Cisco VIC 15235 Slot 2 - Cisco VIC 15425 or Cisco VIC 15235	Cisco UCS Manager detects both the slots.
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 15425 or Cisco VIC 15235 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.
Only one slot is occupied. Slot 1 - Any Cisco VIC card or third-party adapter or Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.
Both slot 4 and slot 5 are occupied. Slot 4 - Cisco VIC 15425 or Cisco VIC 15235 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 5.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 15425 or Cisco VIC 15235 Slot 5 - Cisco VIC 15425 or Cisco VIC 15235	Cisco UCS Manager detects both the slots.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 15425 or Cisco VIC 15235 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.
Only one slot is occupied. Slot 4 - Any Cisco VIC card or third-party adapter or Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.

Cisco UCS Manager Management for Mixed VIC Set-up in C225 M8 Server

Cisco UCS Manager does not provide full support in a setup with Cisco UCS C225 M8 Server and mixed VIC cards.

Table 11: Cisco UCS Manager Management

Slots	Cisco UCS Manager Management
Both slot 1 and slot 2 are occupied. Slot 1 - Cisco VIC 15425 or Cisco VIC 15235 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 2.
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 15425 or Cisco VIC 15235 Slot 2 - Cisco VIC 15425 or Cisco VIC 15235	Cisco UCS Manager detects both the slots.
Both slot 1 and slot 2 are occupied. Slot 1 - Any Cisco VIC card or third-party adapter except Cisco VIC 15425 or Cisco VIC 15235 Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.
Only one slot is occupied. Slot 1 - Any Cisco VIC card or third-party adapter or Slot 2 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.
Both slot 4 and slot 5 are occupied. Slot 4 - Cisco VIC 15425 or Cisco VIC 15235 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects only slot 5.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 15425 or Cisco VIC 15235 Slot 5 - Cisco VIC 15425 or Cisco VIC 15235	Cisco UCS Manager detects both the slots.
Both slot 4 and slot 5 are occupied. Slot 4 - Any Cisco VIC card or third-party adapter except Cisco VIC 15425 or Cisco VIC 15235 Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects both the slots.
Only one slot is occupied. Slot 4 - Any Cisco VIC card or third-party adapter or Slot 5 - Any Cisco VIC card or third-party adapter	Cisco UCS Manager detects whichever slot is occupied.

Connecting the C-Series Server with Cisco UCS Domain in Cluster Setup

Connecting the C-Series Server with Cisco UCS Domain in Cluster Setup

Before you begin

Important Make sure the server Cisco IMC is set to factory default settings to integrate with Cisco UCS Manager.

- Make sure the FI ports are configured as server ports. If they are not, reconfigure the ports as server ports using the Cisco UCS Manager GUI.
- Before you connect the server, make sure the Cisco UCS VIC is installed in the correct slot for integration with Cisco UCS Manager. If the card is not installed in the correct slot, you cannot enable the direct connect management for the server.

Procedure

Step 1 Install the server in the rack. See the *Install and Upgrade Guide* for the server that you are using. The install guides are available at the following url: Install and Upgrade Guides.

Step 2 Configure the server ports on the FI.

Step 3 Connect the paths from Cisco UCS VIC adapter to the server ports on the FIs.

a) Connect one supported SFP cable between the server and one port on FI A. You can use any port on FI A, but the port must be enabled for server traffic.

Make sure to connect one cable from the VIC to the FI for one card. You cannot connect both ports in the same FI.

b) Connect one supported SFP cable between the server and one port on FI B. You can use any port on FI B, but the port must be enabled for server traffic.

Note
- Do not mix SFP types on an uplink. If you do, you will get `Discovery Failed` errors.
- For cabling information, see Physical Connectivity Illustrations for Direct Connect Mode Cluster Setup, on page 15.

Step 4 Attach a power cord to each power supply in your server, and then attach the power cord to a grounded AC power outlet.

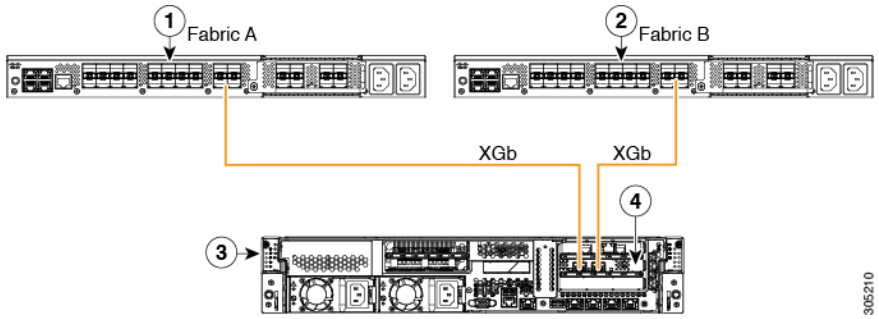
Server discovery begins when power is applied.

Physical Connectivity Illustrations for Direct Connect Mode Cluster Setup

The following images shows a sample of direct connect mode physical connectivity for C-Series Rack-Mount Server with Cisco UCS Domain, Cisco UCS Manager, release 3.1 or later. This image shows the cabling configuration for Cisco UCS Manager integration with a C-Series Rack-Mount Server. The paths shown in gold carry both management traffic and data traffic.

The illustrations given are only for example purpose. The equipment setup may vary depending on the server, VIC, and FI.

Figure 1: Direct Connect Cabling Configuration



Cisco IMC on the C-Series Rack-Mount Server uses the first adapter for management and data connectivity and a second adapter only for data connectivity. Every virtual interface on the rack server needs to be connected to both Fabric Interconnect adapters. Different configurations require specific setup.

This image shows the cabling configuration for Cisco UCS Manager integration on C-Series Rack-Mount Server with dual Cisco VIC adapters. The first adapter can be configured as management only and the second adapter can be configured as data traffic only. The gold color path carries management and the red color path carries data traffic.

Different servers require different slot locations for the management. Consult the appropriate C-Series Rack Server spec sheet to locate the slot that has Network Communications Services Interface protocol support (NCSI) and use as the management.

The illustrations given are only for example purpose. The equipment setup may vary depending on the server, VIC, and FI.

Figure 2: Direct Connect Cabling Configuration for Dual Adapter

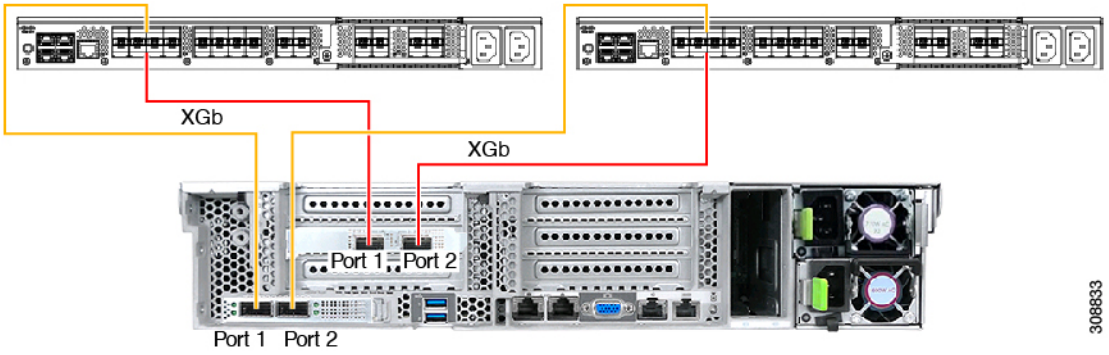


Figure 3: Direct Connect Cabling Configuration with Cisco VIC 1455 (4-Port Linking)

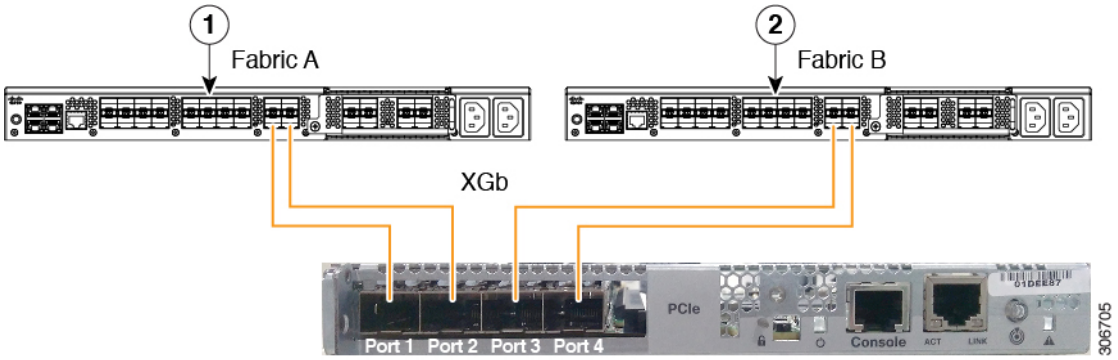
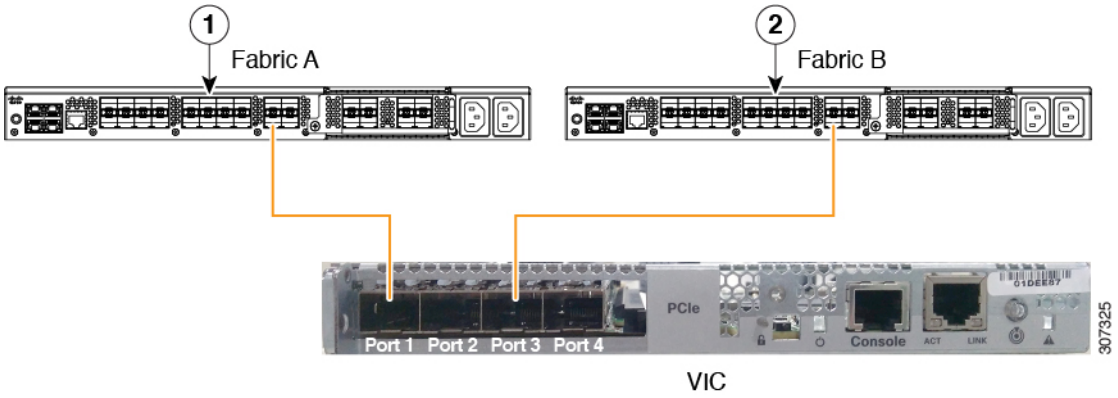


Figure 4: Direct Connect Cabling Configuration with Cisco VIC 1455 (2-Port Linking)



1	Cisco UCS UCS FI (Fabric A)	3	C-Series Rack-Mount Server
2	Cisco UCS UCS FI (Fabric B)	4	Cisco UCS VIC in supported PCIe slot

Note Ports 1 and 3 are used because the connections between ports 1 and 2 (also 3 and 4) form an internal port-channel.

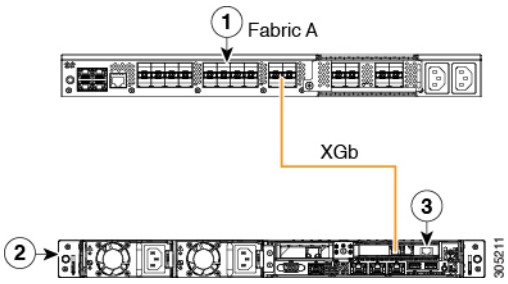
Caution Do not connect port 1 to Fabric Interconnect A and port 2 to Fabric Interconnect B. Use ports 1 and 3 only. Using ports 1 and 2 results in discovery and configuration failures.

Note XGb represents a Ethernet connection speed. For speed values, refer Cisco UCS Fabric Interconnect Server Compatibility Matrix. For cabling requirements, see xxx (release notes ref)

Connecting the C-Series Server with Cisco UCS Domain in Non-Cluster Setup

Connecting the C-Series Server with UCS Domain in Non-Cluster Setup

Procedure

	Command or Action	Purpose
Step 1	To connect the C-Series server with a UCS domain in a non-cluster setup, complete the same steps described in Connecting the C-Series Server with Cisco UCS Domain in Cluster Setup, on page 14. Instead of using two FIs to connect two cables as in cluster setup, you need to connect only one FI and one cable to the adapter.	***Figure 5: Physical Connectivity Illustration Example for Direct Connect Mode Non-Cluster Setup*** The following image show the cabling configuration for Cisco UCS Manager integration with the server. The path shown in gold carry both management and data traffic.  Cisco UCS FI (Fabric A) — 2 — C-Series Rack-Mount Server 3 — Cisco VIC in supported PCIe slot. XGb represents a Ethernet connection speed. For speed values, refer Cisco UCS Fabric Interconnect Server Compatibility Matrix. For cabling requirements, see xxx (release notes ref)

Physical Connectivity Illustrations for Direct Connect Mode Non-Cluster Setup

The following images shows a sample of direct connect mode physical connectivity for C-Series Rack-Mount Server with Cisco UCS Domain, Cisco UCS Manager, release 3.1 or later. This image shows the cabling configuration for Cisco UCS Manager integration with a C-Series Rack-Mount Server. The paths shown in gold carry both management traffic and data traffic.

The images given are only for example purpose. The equipment setup may vary depending on the server, FI, and FEX.

Figure 6: Direct Connect Cabling Configuration with Cisco VIC (Single Cable Configuration)

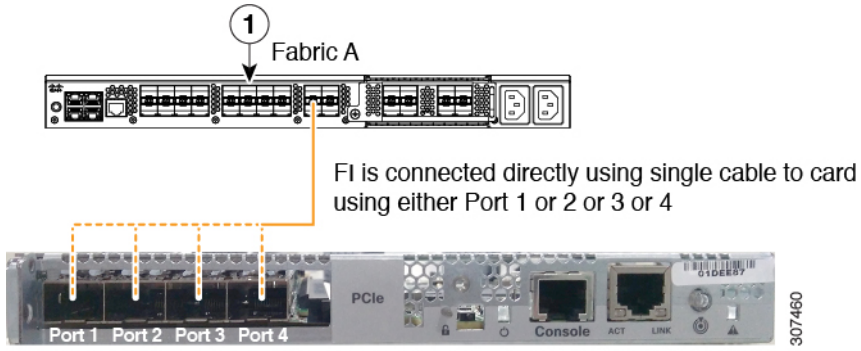
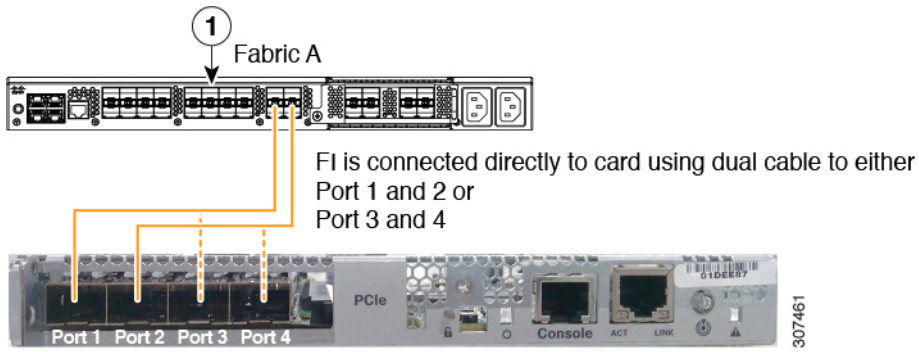


Figure 7: Direct Connect Cabling Configuration with Cisco VIC (Dual Cable Configuration)



XGb represents a Ethernet connection speed. For speed values, refer Cisco UCS Fabric Interconnect Server Compatibility Matrix. For cabling requirements, see xxx (release notes ref)

Migrating C-Series Servers from SingleConnect to Direct Connect Mode

Before performing the migration procedure, on the Cisco UCS Manager GUI, Global Policies page, make sure the **Rack Discovery Policy** and **Rack Management Connection Policies** are set to the defaults such as, **Immediate** and **Auto Acknowledge**. This ensures that, after connecting the server directly to the FI, the server is discovered immediately and Cisco UCS Manager starts managing the server without waiting for your interaction.

Caution Migrating from SingleConnect FEX connectivity to direct connect is a disruptive process. Ensure that you do this during a scheduled outage window. You may required 15 to 20 minutes to complete this procedure.

Procedure

Step 1 Configure the server ports on the FI.

Step 2 Disconnect the cables from the FEX and connect them to the configured server ports on Fabric Interconnect.

Step 3 On the Cisco UCS Manager GUI, right click the server, from the pop-up menu, select **Recover Server** or **Server Maintenance**.

Step 4 Click **Re-acknowledge** and select **OK**.

This will cause server reboot.

After the server reboots, you can resume normal operations.

Migrating C-Series Servers from Dual-wire Management to Direct Connect Mode

Before performing the migration procedure, on the Cisco UCS Manager GUI, Global Policies page, make sure the **Rack Discovery Policy** and **Rack Management Connection Policies** are set to the defaults such as, **Immediate** and **Auto Acknowledge**. This will make sure after connecting the server directly to the FI, the server is discovered immediately and Cisco UCS Manager starts managing the server without waiting for your interaction.

Caution

- Migrating from Dual-wire FEX connectivity to direct connect is a disruptive process. Make sure you do this during a scheduled outage window. You might need 15 to 20 minutes to complete this procedure.
- You must decommission the server before performing the migration.

To enable direct connect mode to a server connected in dual-wire management mode, you will need to change the adapter. Changing the adapter may impact the PCIe numbering on a bare metal Windows system. If you had Adapters listed in the OS, after you change them they will be Adapter 3 and 4. If you are using static addressing, you will need to remove the previous adapters from the server. For more information, see http://support.microsoft.com/kb/269155

Procedure

Step 1 Configure the server ports on the FI.

Step 2 Decommission the server.

Step 3 If you are not using Cisco UCS VIC 1225, Cisco UCS VIC 1227, Cisco UCS VIC 1385, or Cisco UCS VIC 1455, change the Cisco UCS VIC physically in the server:

a) Unplug power cable, management LOMs and SFP twinax connections from the back of the server.
b) Slide the server out of the rack and remove the top cover.
c) Remove the PCIe riser card from the slot and remove the existing Adapter and then install Cisco UCS VIC 1225.
d) Reinstate the PCIe riser card into the slot, place the top cover back on the server and push the server back into the rack.
e) (Optional)If you would no longer require the FEX to connect any server in dual wire mode, unplug the FEX from Cisco UCS Manager, and power and remove the FEX from the rack server.

Step 4 Connect the SFP twinax cables from the Cisco VIC port to the FI ports.

Step 5 Reconnect the power cable to the server.

CIMC has standby, so you need not power the server.

What to do next

Recommission the server from Cisco UCS Manager GUI. After the recommission is complete, the server is ready for operation and you can apply service profiles to the server.

Managing the Rack-Mount Server in Cisco UCS Manager after Integration

You can manage and monitor all rack-mount servers that have been integrated with a Cisco UCS domain through Cisco UCS Manager. After the integration, you can perform all rack-mount server management tasks only through the service profiles from Cisco UCS Manager GUI or Cisco UCS Manager CLI. The C-Series Rack-Mount Server Cisco IMC is not accessible when you start managing the server with Cisco UCS Manager.

Cisco UCS Manager provides information, errors, and faults for each rack-mount server that was discovered.

For more information on managing C-Series Rack-Mount Servers from Cisco UCS Manager, see the chapter on Managing Rack-Mount Servers in your release specific Cisco UCS Manager Configuration Guide.

Reverting a Server From Cisco UCS Domain Mode to Standalone Mode

When you manage a Cisco UCS C-Series server with Cisco UCS Manager software, a UCS Manager service profile is associated with the server. If you want to revert a C-Series server to standalone mode (so that it can be managed by Cisco IMC software), you must do the following actions in UCS Manager:

Procedure

Step 1 Disassociate the UCS Manager service profile from the server.

Step 2 Remove the connections from the adapter.

Step 3 Manually power on the server.

Step 4 Connect the front panel KVM connection.

Step 5 Press **F8** during the boot up.

Step 6 Reset Cisco IMC to factory defaults or stand-alone mode.

Caution
If you do not disassociate the service profile from the server, MAC and WWN numbers assigned by Cisco UCS Manager might be kept by the server. This can cause numbering duplication and conflicts with other servers that are managed by

Cisco UCS Manager. Also, if you revert a server to standalone mode without disassociating the service profile, any LSI RAID controller may not show as a bootable device in the standalone server, preventing local booting.

Special Considerations for Integrated Servers

When you connect the C-Series servers in Cisco UCS system, make sure to review the following information:

• Single Link Port Channel between VIC 1455, VIC 1457, or VIC 1467 Adapters and Cisco UCS 6300 Fabric Interconnects, on page 21

Single Link Port Channel between VIC 1455, VIC 1457, or VIC 1467 Adapters and Cisco UCS 6300 Fabric Interconnects

Cisco UCS Manager Release 4.0(1a) and later support only single link port channel between VIC 1455, 1457, or 1467 adapters on direct-connect rack-servers to Cisco UCS 6300 Series Fabric Interconnects.

Do not add a second port channel link between VIC 1455, 1457, or 1467 adapters and Cisco UCS 6300 Series Fabric Interconnects.